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EXAMINER	
TON, ANTHONY T	

ART UNIT	PAPER NUMBER
2661	7

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/762,228	RASANEN, JUHA	
	Examiner	Art Unit	
	Anthony T Ton	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 February 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 10-15* is/are rejected.

7)☒ Claim(s) *9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 February 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. This application does not contain **an abstract** of the disclosure as required by 37 CFR 1.72(b). An **abstract** on a separate sheet is required.

2. The disclosure is objected to because of the following informalities:

Term "**PTS**" in **page 11, line 35** is improper because it is not associated with a base station.

Examiner suggests changing this term to "**BTS**".

Appropriate correction is required.

Claim Objections

3. **Claim 14** is objected to because of the following informalities:

Term **"(BTS)"** in **line 3 and line 7**; term **"(IWF)"** in **line 4, line 8** and **line 12**; and term "**(MS)**" in **line 11** are improper.

Examiner suggests deleting these terms out of the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claims **1-11 and 14** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) **Claim 1** recites the limitation "**the transmission link**" in **line 4** and the limitation "**said phase information**" in **lines 15-16**. There are insufficient antecedent bases for these limitations in the claim.

b) **Claim 5** and **Claim 6** recite the limitation "**said information unit**" in **line 2** and the limitation "**the network interface**" in **line 3**. There are insufficient antecedent bases for these limitations in the claim.

c) **Claim 14** recites the limitation "**said information unit**" in **line 2** and the limitation "**the network interface**" in **line 7**. There are insufficient antecedent bases for these limitations in the claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. **Claims 1-4, 7, 8 and 10-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Scholefield et al.** (US Patent No. **5,742,592**) (provided by IDS #3) in view of **Kaku et al.** (US Patent No. **6,298,036**), hereinafter referred to as Scholefield and Kaku, respectively.

a) **In Regarding to Claim 1**: **Scholefield disclosed** a data transmission method in a digital telecommunication system, the method comprising the step of:

placing information units to be transmitted in frames of a lower protocol in a transmission link *(see Fig.2: 211, 212 and 213 (information units) and 220; and col.3 lines 44-49),*

transmitting the frames over the transmission link *(see Fig.1: air interface (radio link)),*

separating said information units from the frames received over the transmission link *(see col.4 lines 2-6:Upon reception, the plural PDUs is defragmented; and see Fig.2: 205),*

characterized by:

A) said placing step comprising the steps of:

a1) providing said frames with phase indication, which is modulo N and defines as sequence of N frames *(see Fig.2: 220, Fig.3: slot1 – slot8, and col.3 line 61-col.4 line 5. In which, there are 3 frames in a transmission packet sequence 220 in Fig.2; therefore, Scholefield inherently disclosed the Modulo 3 radio packet sequence 220 as shown in Fig.2 and phase indication number can be 0,1 and 2, each of which is modulo 3; and hence Modulo 8 in the slotted packet of Fig.3 wherein the phase indication numbers of these 8 frames (one slot for one frame) are 0 to 7 corresponding to slot1 – slot8, respectively, thus the 0 to 7, each of which is modulo 8),*

a2) placing N1 information units in each modulo N frame sequence, wherein N1 is not equal to N *(see Fig.4: Control DBG blocks),*

B) said separating step comprising the steps of:

separating N1 information units from each modulo N frame sequence for further processing *(see col.3 line 44-col.4 line 6: PDUs (packet data units have been separated from N1 information (control information))*.

Scholefield failed to explicitly disclose said separating step comprising the steps of:

identifying the phase of each modulo frame sequence and the starting points of the information units in the frames on the basis of said phase indication.

Kaku disclosed such identifying the phase of each modulo frame sequence and the starting points of the information units in the frames on the basis of said phase indication *(see Fig.50 and Table 3)*.

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such identifying the phase of each modulo frame sequence and the starting points of the information units in the frames on the basis of said phase indication, as taught by Kaku with Scholefield, so that each appropriate data packet corresponding to each end user can be properly routed and received through a radio interface. The motivation for doing so would have been to provide an efficient and reliable process for routing multiplexed data packets in communications networks. Therefore, it would have been obvious to combine Kaku and Scholefield the invention as specified in the claim.

b) **In Regarding to Claim 2**: **Scholefield further disclosed** the method as claim 1, characterized by the telecommunication system being a wireless telecommunication system and the information units being transmitted in radio frames over the radio frames *(see Figs.1 and 2)*.

c) **In Regarding to Claim 3**: **Scholefield further disclosed** the method as claim 1, characterized by said phase indication comprising one of the following: a pseudo-noise code

spread over N radio frames, and a sequence number *(see col.3 lines 13- 43: CDMA hence PN code spread over radio frames).*

d) **In Regarding to Claim 4**: **Scholefield further disclosed** the method as claim 1, characterized by coding the phase indication as protection against transmission errors *(see col.4 line 65- col.5 line 6).*

e) **In Regarding to Claim 7**: **Scholefield further disclosed** the method as claim 1, 2, 3, or 4 characterized by said information units being a protocol data unit in an upper layer protocol *(see col.3 line 35-49: PDU).*

f) **In Regarding to Claim 8**: **Scholefield further disclosed** the method as claim 7 characterized by said information units being a protocol data unit such as a radio link protocol frame, in a link protocol established between a mobile station and a network adapter *(see Fig.1: 105, 120, 125 and 130).*

g) **In Regarding to Claim 10**: **Scholefield disclosed** all aspects of this claim as set forth in claim 1, and Scholefield further disclosed the method as claim 1 characterized by adding one or more filler bits to the frame sequence, preferably at the end of the last frame *(see Fig.9: block 905 (filler bits) and col.6 line 48-col.7 line 9: an MS generates (adds) a random number between 1 and Wn),*

Scholefield failed to explicitly disclose if the bit number required by the N1 information units and phase information is smaller than the total number of information bits in the modulo N frame sequence, rejecting said one or filler bits at the reception end.

Rasanen disclosed such if the bit number required by the N1 information units and phase information is smaller than the total number of information bits in the modulo N frame sequence,

rejecting said one or filler bits at the reception end. However, Scholefield inherently disclosed such claimed subject matters of the instant claim because Scholefield has disclosed upon reception, a plurality of packet data units is defragmented and error corrected into a replica of the original data packet

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such if the bit number required by the N1 information units and phase information is smaller than the total number of information bits in the modulo N frame sequence, rejecting said one or filler bits at the reception end teaching in the instant claim with Scholefield, so that each appropriate data packet corresponding to each end user can be synchronously received by the receiver of a mobile station. The motivation for doing so would have been to provide synchronization between transmitting and receiving sequence packets. Therefore, it would have been obvious to combine the instant claim and Scholefield the invention as specified in the claim.

h) **In Regarding to Claim 11**: **Scholefield further disclosed** the method as claim 1 characterized by a remote transcoder unit being arranged between the radio access network element and the network adapter at the network interface and the method comprising the additional steps of:

using transmission frames of a first type between said element and remote transcoder *(see Fig.1: Base station (said element), GSN (remote transcoder) and PDN (first type)).*

using transmission frames of a second type between the remote transcoder and the network adapter *(see Fig.1: MSC and HLR/AuC (network adapter) and PSTN (second type)).*

i) **In Regarding to Claim 12**: this claim is rejected for the same reasons as Claim 1 in a digital mobile communication system teaching in this claim.

j) **In Regarding to Claim 13**: this claim is rejected for the same reasons as Claim 3 in a digital mobile communication system teaching in this claim.

k) **In Regarding to Claim 14**: **Scholefield further disclosed** the method as claim 12 characterized by said information units being one of the following:

a transmission frame in which data is transmitted over the network interface between the radio access network element and a network adapter *(see Fig.2 and Fig.1: BTS and MSC),*

the information contents of a transmission frame transmitted over a network interface between the radio access network element and the network adapter *(see col.3 line 44-col.4 line 12 and Fig.1),*

a protocol data unit in an upper layer protocol *(see col.3 lines 44-66: PDU),*

a protocol data unit, such as a radio link protocol frame, in a link protocol established between the mobile station and the network adapter *(see col.3 lines 13-43).*

l) **In Regarding to Claim 15**: this claim is rejected for the same reasons as Claim 10 in a digital mobile communication system teaching in this claim.

8. **Claims 5 and 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Scholefield** (US Patent No. **5,742,592**) in view of **Kaku** (US Patent No. **6,298,036**) as applied to claims 1-4 above, and further in view of **Ketseoglou et al.** (US Patent No. **5,732,076**) hereinafter referred to as Ketseoglou.

a) **In Regarding to Claim 5**: **Scholefield and Kaku disclosed** all aspect of this claim as set forth in claim 1, 2, 3 or 4.

Scholefield and Kaku failed to disclose the method characterized by said information units being a transmission frame in which data is transmitted over the network interface between a radio access network element and a network adapter.

Ketseoglou disclosed such a method characterized by said information units being a transmission frame in which data is transmitted over the network interface between a radio access network element and a network adapter *(see Fig.25)*.

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such information units being a transmission frame in which data is transmitted over the network interface between a radio access network element and a network adapter, as taught by Ketseoglou with Scholefield, so that each appropriate data packet corresponding to each end user in different network protocols can be properly routed and received through a radio interface. The motivation for doing so would have been to provide compatible transmission frames in different communications network protocols. Therefore, it would have been obvious to combine Ketseoglou and Scholefield the invention as specified in the claim.

b) **In Regarding to Claim 6**: the claimed subject matters of this claim are similar to that of claim 5 (claim 5/1) for said information units being **the information contents** of a transmission frame transmitted over a network interface between a radio access network element and a network adapter. Therefore, the rejection to the claim 5 would apply to reject this claim as well.

Allowable Subject Matter

9. **Claim 9** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Examiner Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T. Ton whose telephone number is 703-305-8956. The examiner can normally be reached on Monday-Friday from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Olms, can be reached on (703) 305-4703. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

ATT
6/25/2004

Phirin Sam